

# EPA Region 10

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# EPA's mandates for Puget Sound

- Clean Water Act
  - to protect the physical, chemical, and biological integrity of the nation's waters
- Programs
  - Water Quality Standards
  - Impaired Waters (TMDLs)
  - NPDES Permits
  - Environmental Assessment
    - (laboratory, quality assurance, water quality modeling, etc)

# EPA's need/interest in marine modeling products/applications

- Support and oversight of Ecology's water quality program:
  - Support
    - Funding (base funding & designated Puget Sound funding)
    - Joint project coordination, peer review, etc.
  - Oversight
    - Review/approval of impaired waters lists
    - Review/approval of TMDLs
    - Oversight of major NPDES permits
    - Quality assurance for scientific work

# Example model application

- Spokane River TMDL for Nutrients
  - Interstate project (WA, ID, and EPA)
  - Portland State Univ. develops desktop CE-QUAL-W2 model
  - PSU documents all aspects of model setup and performance
  - Peer review by agency technical workgroup
  - Improvements to model and documentation by PSU
  - Agencies agree on adequacy of model for decisionmaking
  - Agencies run “what if” simulations
  - All model files shared with stakeholders upon request

# Vision for future

- Systematic development of models to answer questions about Puget Sound pollution:
  - Large scale (i.e., entire Puget Sound)
    - Nutrient impacts from Sound-wide urbanization and agricultural/industrial development
    - Bioaccumulation of Toxics in Food Web
  - Small scale (i.e., sensitive embayments such as Hood Canal)
    - Nutrient/pathogen impacts from proximate sources such as sewage treatment plants, stormwater, septics, air deposition
- Ecology in a central role:
  - Promoting models that fit needs of Clean Water Act programs
  - Hosting, archiving, and running established models
  - Promoting strong model documentation and peer review
  - Using models to develop TMDLs and NPDES permits

# EPA Needs...

- QA project plans with clarity on objectives, products, and schedules to support planning decisions
- Thorough model documentation and peer review prior to use of a model
- Open sharing of model program files with agencies and stakeholders
- QA'd data for use in assessments
- Easy access to “raw QA'd” data to participate in exploratory analysis